

Press Operation
Competency Based Training
Related Classroom Instruction
Unit 1

Performance Outcome: Apprentice will have a basic understanding of the Printing Industry

1. Reading Materials: Print Scape: A Crash Course in Graphic Communications
ISBN: 0-88362-395-1; and Pocket Pal (published by International Paper)

Class Topics:

1. The role of printing in the free enterprise system.
2. Print markets and types of print businesses.
3. How printing ranks among other industries.
4. Major printing processes.
5. The advantages and disadvantages of each major process.
6. The workflow processes in printing from initial concept to final product.
7. The technical production flow from idea to finished product.
8. The importance of interdepartmental and client/production communication.
9. Major occupations in the printing industry and the training needed for each.
10. The major responsibilities for each occupation.
11. The basic salary/wage expectation ranges for our local area.
12. Basic printing equipment.
13. How to read and interpret production information from the job ticket/jacket.

2. Written Test: Minimum Passing Score is 85%

Score _____
Instructor _____ Date _____

3. Practical Task: None

UPON COMPLETION OF THIS UNIT ASSIGNMENT, MAKE A COPY FOR **YOUR** RECORDS.

Press Operation
Related Classroom Instruction
Unit 2

Performance Outcome: Attend and successfully complete the Safety and First Aid Class

Reading Materials: Association Developed Materials

Class topics:

1. Fire safety equipment.
2. Proper use of fire safety equipment.
3. Safety rules involving flammable liquids.
4. Steps to be taken in case of injury.
5. Interpret Material Safety Data Sheets (MSDS).
6. Protective safety equipment where needed (gloves, goggles, ear plugs.)
7. Safety procedures when operating equipment.
8. Dress code for safe operations, including necessary personal safety equipment.
9. Approved methods to dispose of waste materials.
10. Instructions on warning labels.
11. Safety color code system.

2. Written Test: Minimum Passing Score is 85%

Score _____
Instructor _____ Date _____

3. Practical Task: Shop Safety and Hazcom Training

UPON COMPLETION OF THIS UNIT ASSIGNMENT, MAKE A COPY FOR **YOUR** RECORDS.

Press Operation
Basic Math: Related Classroom Instruction
Unit 3

Performance Outcome: Apprentice will have a basic understanding of, and demonstrate the ability to solve basic math problems.

This performance objective may be met with a "By Pass Test" administered by the instructor.

1. Reading Materials: Association Developed Materials and segments from Handbook of Graphic Arts Equations ISBN: 0-88362-246-7

Class Topics:

1. Addition of whole number problems – two and three digits.
2. Addition of fraction problems.
3. Addition of decimal problems – two and three digits.
4. Subtraction of whole number problems – two and three digits.
5. Subtraction of fraction problems.
6. Subtraction of decimal problems – two and three digits.
7. Multiplication of whole numbers – two and three digits.
8. Multiplication of decimal problems – two and three digits.
9. Division of whole number problems – two and three digits.
10. Division of decimal problems – two and three digits.
11. Decimals to percent conversion problems.
12. Percent to decimal conversion problems.
13. Basic ratio and proportion problems.
14. Fraction to decimal conversion problems.
15. Basic linear measurement problems.
16. Basic type calculation problems.
17. Basic liquid measurement problems.
18. Basic paper cutting calculations.
19. Inches to point's conversion problems.
20. Point's to inches conversion problems.
21. Cost calculating problems.

2. Written Test: Minimum Passing Score is 85%

Score _____

Instructor

Date

3. Practical Task: None

UPON COMPLETION OF THIS UNIT ASSIGNMENT, MAKE A COPY FOR **YOUR** RECORDS.

Press Operation
Paper Knowledge: Related Classroom Instruction
Unit 4

Performance Outcome: Apprentice will have a basic understanding of paper in printing and finishing applications.

Reading Materials: What the Printer Should Know About Paper ISBN: 0-88362-210-6 and Association Developed Materials.

Class Topics:

1. How paper is made.
2. Paper types and finishes.
3. Basis weight.
4. Opacity.
5. Brightness.
6. Formation.
7. Coating.
8. Grain Direction.
9. Copying, printing, finishing and mailing requirements.
10. Pros, cons and applications for each paper type.
11. Printing difference on various sheets.

2. Written Test: Minimum Passing Score is 85%

Score _____
Instructor _____ Date _____

3. Practical Task: Paper Knowledge Unit 4

UPON COMPLETION OF THIS UNIT ASSIGNMENT, MAKE A COPY FOR **YOUR** RECORDS.

Press Operation
 Paper Knowledge: Competency Based Task Requirements
 Unit 4

| Performance Outcome: Apprentice will be able to demonstrate an understanding of paper basics and their relationship to press operation. | | |
|---|--|--------------------------------|
| Task | Minimum Task Standards Met, Date/ Initials | Supervisor/Apprentice Comments |
| <p>Practices safe work habits in Bindery Operations</p> <p>Demonstrates proper paper handling procedures</p> <p>Demonstrates basic paper counting techniques (i.e., measurement by ream marker, weight, caliper, etc.)</p> <p>Demonstrates importance of proper grain direction for press and finishing applications</p> <p>Reads and interprets Job Tickets</p> <p>Identifies and selects various paper types based on their cutting, folding and binding characteristics.</p> <p>Classifies and identifies all paper types most commonly used in printing applications</p> <p>Classifies and identifies all paper types relating to their cutting, folding, and binding characteristics</p> <p>Prepares folding dummy's for commonly used imposition</p> <p>Prepares pagination samples for all bound applications</p> <p>Prepares signatures with high folio lip and low folio lip, noting advantages of both</p> <p>Checks square ness of stock</p> | | |

This apprentice has satisfactorily met all of the requirements for the performance outcome of Paper Knowledge

 Supervisor

 Date

Small Press Operation
Introduction to Press Operations: Related Classroom Instruction
Unit 5

Performance Outcome: Apprentice will have a basic understanding of general press operation procedures.

1. Reading Materials: Will be assigned by the classroom instructor (Sheetfed Offset Training Curriculum), in conjunction with work performed on a press simulator.

Class topics:

1. Observe the pressroom operation of a commercial printer.
2. Read and interpret information from a job ticket.
3. Identify safety conditions and practice safe work habits in press operation.
4. Identify plate-making and plate processing procedures.
5. Identify additions, deletions, and repairs that can be made on an offset plate.
6. Identify basic parts and systems of an offset press.
7. Identify basic press operation procedures.
8. Identify basic paper types by weight, coating, and sizes.
9. Determine grain direction.
10. Handle and jog paper stock (wire/felt, watermark, carbonless sequence).
11. Identify basic paper cutting procedures.
12. Identify paper problems that can occur prior to running on the press (i.e. tight edges, and wavy paper).
13. Identify offset ink types and uses (i.e. tack).
14. Identify ink additives.
15. Identify ink problems and their solutions.
16. Describe ink mixing procedures including formulation, and color testing.
17. Identify fountain solutions and additives.
18. Identify fountain solution problems and their solutions.
19. Identify fountain solution mixing and testing procedures.
20. Identify fountain solutions using appropriate ratios.
21. Identify press make-ready procedures including paper, ink, pressure settings, and fountain solution according to press system specifications.
22. Identify various job imposition types as used by the employer (i.e. work & turn, work & tumble, sheet-wise, signature).
23. Evaluate print quality and make needed adjustments to meet customer expectations.
24. Identify press quality control adjustments and tools used during operation (i.e. densitometer).
25. Introduction to color theory.
26. Identify proper wash-up procedures for the inking systems, dampening systems, rollers, and cylinders.
27. Identify basic press maintenance as required in the press operations manual or by the employer.

2. Written Test: Minimum Passing Score is 85%

Score _____
Instructor _____ Date _____

3. Practical Task: None

UPON COMPLETION OF THIS UNIT ASSIGNMENT, MAKE A COPY FOR **YOUR** RECORDS.

Small Press Operation
Small Press Operation: Competency Based Task Requirements
Unit 5

| Performance Outcome: Apprentice will be able to demonstrate an understanding of the operation and the proper use of press and related equipment used to produce a quality printed job. (minimum – 2000 hours) | | |
|--|---|--------------------------------|
| Task | Minimum Task Standards Met, Date/Initials | Supervisor/Apprentice Comments |
| Practices safe work habits in a work environment. Demonstrates working knowledge of all operational and safety parts and systems of press operation. Reads and interprets information from a job ticket. Produce an offset plate according to shop specifications. Makes deletions, additions, or corrections to an offset plate as needed. Performs a complete make-ready of an offset press according to press and employer specifications. Mixes appropriate fountain solution for an offset press. Calculates and mixes appropriate ink for completion of an assigned customer job. Prints various customer jobs demonstrating the proper use of a densitometer. Evaluates printed jobs according to customer/employer quality standards. Performs basic wash-up procedures as established by employer. Performs basic maintenance procedures as established by employer. | | |

The apprentice has satisfactorily met all of the requirements for the Performance Outcome of Press Operator.

Supervisor

Date

Large Sheetfed Press Operation
Introduction to Press Operations: Related Classroom Instruction
Unit 6 & 7

Performance Outcome: Apprentice will have a basic understanding of general press operation procedures beginning on the Press Feeder Operation level, with the goal of becoming a Large Format Press Operator.

1. Reading Materials: Will be assigned by the classroom instructor (Sheetfed Offset Press Training Curriculum), in conjunction with work performed on press simulator.

Class topics:

1. Observe the pressroom operation of a commercial printer.
2. Read and interpret information from a job ticket.
3. Identify safety conditions and practice safe work habits in press operation.
4. Identify plate-making and plate processing procedures.
5. Identify additions, deletions, and repairs that can be made on an offset plate.
6. Identify basic parts and systems of an offset press.
7. Identify basic press operation procedures.
8. Identify basic paper types by weight, coating, and sizes.
9. Determine grain direction.
10. Handle and jog paper stock (wire/felt, watermark, carbonless sequence).
11. Identify basic paper cutting procedures.
12. Identify paper problems that can occur prior to running on the press (i.e. tight edges, and wavy paper).
13. Identify offset ink types and uses (i.e. Tack).
14. Identify ink additives.
15. Identify ink problems and their solutions.
16. Describe ink mixing procedures including formulation, and color testing.
17. Identify fountain solutions and additives.
18. Identify fountain solution problems and their solutions.
19. Identify fountain solution mixing and testing procedures.
20. Identify fountain solutions using appropriate ratios.
21. Identify press make-ready procedures including paper, ink, pressure settings, and fountain solution according to press system specifications.
22. Identify various job imposition types as used by the employer (i.e. work & turn, work & tumble, sheet-wise, signature).
23. Evaluate print quality and make needed adjustments to meet customer expectations.
24. Identify press quality control adjustments and tools used during operation (i.e. densitometer).
25. Introduction to color theory.
26. Identify proper wash-up procedures for the inking systems, dampening systems, rollers, and cylinders.
27. Identify basic press maintenance as required in the press operations manual or by the employer.

2. Written Test: Minimum Passing Score is 85%

Score _____
Instructor _____ Date _____

3. Practical Task: None

UPON COMPLETION OF THIS UNIT ASSIGNMENT, MAKE A COPY FOR **YOUR** RECORDS.

Press Feeder Operation
Press Feeder Operation: Competency Based Task Requirements
Unit 6

| Performance Outcome: Apprentice will be able to demonstrate an understanding of the operation and the proper use of loading paper, and all set up and support necessary on a large sheetfed press. (minimum – 1000 hours) | | |
|---|---|--------------------------------|
| Task | Minimum Task Standards Met, Date/Initials | Supervisor/Apprentice Comments |
| Practices safe work habits in a work environment. Demonstrates working knowledge of all operational and safety parts and systems of press operation. Reads and interprets information from a job ticket. Keeps press clean Maintains water tanks and water trays Mixes appropriate fountain solution Calculates and mixes appropriate ink for an assigned customer job. Sets up all aspects of feeder, including loading paper and making all necessary adjustments applicable to age and sophistication of the press equipment. Handles different substrates properly in the process of loading the press feeder. Evaluate printed jobs according to customer/employer quality standards Performs basic wash-up procedures as established by employer. Uses densitometer for evaluating solid density and dot gain. Performs basic maintenance procedures as established by press operator | | |

The apprentice has satisfactorily met all of the requirements for the Performance Outcome of Feeder Operator.

Supervisor

Date

Large Sheetfed & Web Press Operation
Introduction to Press Operations: Basic Computer – Press Related

Unit 7.5 (alt.10.5)

Performance Outcome: Apprentice will have an understanding of basic press-related computer functions

1. Reading Materials: Will be assigned by the classroom instructor, in conjunction with work performed on press simulator.

Class topics:

1. Overview of prepress operations for commercial and digital printing operations.
2. Overview of the computer to plate process.
3. Overview of all computer functions related to various and specific printing presses (and/or digital printing equipment).
4. Simulator exercises covering all computerized functions of various and specific printing presses (and/or digital printing equipment).

2. Written Test: Minimum Passing Score is 85%

Score _____
Instructor _____ Date _____

3. Practical Task: None

UPON COMPLETION OF THIS UNIT ASSIGNMENT, MAKE A COPY FOR **YOUR** RECORDS

Large Sheetfed Press Operation
Press Operation: Competency Based Task Requirements
Unit 7 & 7.5

| Performance Outcome: Apprentice will be able to demonstrate an understanding of the operation of a large sheetfed press. (minimum – 2000 hours) | | |
|---|---|--------------------------------|
| Task | Minimum Task Standards Met, Date/Initials | Supervisor/Apprentice Comments |
| Practices safe work habits in a work environment. Demonstrates knowledge of all operational and safety parts of press operation. Reads and interprets information from a job ticket. Observes prepress operation. Observes computer to plate operation. Identifies & understands job profiles (i.e., ink key settings, size & paper thickness). Measures plate thickness and insert packing sheets to build up plate to printing height to achieve pressure required for printing. Performs computer to press functions & automation (i.e. downloading job profiles to press). Performs computerized press functions & automation. Performs automatic plate hanging & automated paper size changes. Sets-up & use of computerized color scanner to obtain and hold densities for various jobs. Performs complete press make-ready according to press and employer specifications. Starts press, examines printed copy for ink density, positions on paper, and registration, and makes adjustments throughout the run (manually or through the use of the computerized press systems). Unloads printed material from the delivery mechanism. Performs complete press run of simple and intricate printing jobs, based upon the type of work produced in the printing establishment. Performs basic maintenance procedures as established by press operator | | |

The apprentice has satisfactorily met all of the requirements for the Performance Outcome of Large Sheetfed Press Operator.

Supervisor

Date

**Web Press Operation
Related Instruction
Unit 8, 9, 10**

Performance Outcome: Apprentice will have a basic understanding of general press operation procedures beginning on the jogger level, moving through tender, with the goal of becoming a Web Press Operator.

1. Reading Materials: Will be assigned by the classroom instructor (web offset press curriculum).

Class Topics:

1. Observe the pressroom operation of a web offset printer.
2. Read and interpret information from a job ticket.
3. Identify safety conditions and practice safe work habits in press operation.
4. Identify plate-making and plate processing procedures.
5. Identify additions, deletions, and repairs that can be made on an offset plate.
6. Identify basic parts and systems of a web offset press.
7. Identify basic press operation procedures.
8. Identify basic paper types by weight, coating, and sizes.
9. Determine grain direction.
10. Identify paper problems that can occur prior to running on the press.
11. Identify offset ink types and uses (i.e. Tack).
12. Identify ink additives.
13. Identify ink problems and their solutions.
14. Describe ink mixing procedures including formulation, and color testing.
15. Identify fountain solutions and additives.
16. Identify fountain solution problems and their solutions.
17. Identify fountain solution mixing and testing procedures.
18. Identify fountain solutions using appropriate ratios.
19. Identify press make-ready procedures including paper, ink, pressure settings, and fountain solution according to press system specifications.
20. Identify established quality checking procedures in the pressroom.
21. Evaluating print quality and making needed adjustments to meet customer expectations.
22. Identify press quality control adjustments and tools used during operation (i.e. densitometer).
23. Introduction to color theory.
24. Identify proper wash-up procedures for the inking systems, dampening systems, rollers, and cylinders.
25. Identify basic press maintenance as required in the press operations manual or by the employer.
26. Identify and demonstrate knowledge of all aspects of press set-up including sheet-size, dryer setting, set-up of folder and sheeter.
27. Identify all relevant press procedures.
28. Demonstrate press trouble shooting through use of press simulator.

2. Written Test: Minimum Passing Score is 85%

Score _____
Instructor _____ Date _____

3. Practical Task: None

UPON COMPLETION OF THIS UNIT ASSIGNMENT, MAKE A COPY FOR YOUR RECORDS.

Web Press Operation
Web Press Jogger (068D)
Unit 8

| Performance Outcome: Apprentice will be able to demonstrate an understanding of the position of Jogger for a web offset press. (minimum – 1000 hours) | | |
|---|--|--------------------------------|
| Task | Minimum Task Standards Met, Date/ Initials | Supervisor/Apprentice Comments |
| <p>Practices safe work habits in a work environment.</p> <p>Follows all required safety procedures: PPE's, ergonomics, chemical hazards, etc.</p> <p>Performs job in a manner that protects the health and safety of all employees.</p> <p>Reads and interprets job ticket.</p> <p>Jogs product off counter stacker and stack neatly on skid to assure good running in bindery or mailing department.</p> <p>Pulls, inspects and initials all running samples.</p> <p>Uses both local and remote scales and can set them up.</p> <p>Assures accurate count of product for the job.</p> <p>Operates auto-count system to assure accuracy of good count and waste counts.</p> <p>Fills out skid flags and packing slips accurately and completely.</p> <p>Makes sure all information on computerized skid flag is correct.</p> <p>Operates the counter stacker, bundler and strapper.</p> <p>Watches for smearing, register, bad folds, etc., out of counter stacker.</p> <p>Reports problems to crew leader.</p> <p>Assists pressmen with roll changes, when needed.</p> <p>Assists pressmen with pulling ink, washing blankets, etc.</p> <p>Move skids away from press.</p> <p>Does general cleaning of press counters and floors.</p> <p>Replaces press solution, rags when they get low.</p> <p>Cleans press area at end of shift (empties containers).</p> | | |

This apprentice has satisfactorily met all of the requirements for the Performance Outcome of Web Press Jogger.

Supervisor

Date

Web Press Operation
Web Press Tender (0683E)
Unit 9

| Performance Outcome: Apprentice will be able to demonstrate an understanding of the position of tender for a web offset press. (minimum – 1000 hours) | | |
|---|--|--------------------------------|
| Task | Minimum Task Standards Met, Date/ Initials | Supervisor/Apprentice Comments |
| <p>Practices safe work habits in a work environment.</p> <p>Follows all required safety procedures: PPE's, ergonomics, chemical hazards, etc.</p> <p>Performs job in a manner that protects the health and safety of all employees.</p> <p>Reads and interprets job ticket.</p> <p>Follows established quality checking procedures in the pressroom including: Filling out skid tags properly and performing the required quality checks. Taking sample copies for the bindery. Taking proper running samples during the course of the job.</p> <p>Follows all other established procedures including: Web Press Proofing Checklist procedures. Plate Remake Sheet procedures. Make ready start-up procedures. Proper trimming of signatures.</p> <p>Ensures quality product is coming off the counter stacker via: Stacking product neatly on skids. Properly operating auto-count system. Assuring accurate counts for each section. Filling out skid flags properly, when needed. Using proper skids as required for the job. Moving skids, when needed, in the press area. Operating the local and floor scale. Operating the counter-stacker. Changing banding on the counter-stacker. Re-threading tiers, as needed.</p> <p>Assists crew-leader and press operators with end of run clean up and any other procedures related to end of run.</p> <p>Assists in the set up of the next job including: Wash-up of units. Bending and hanging plates. Webbing up.</p> <p>Helps keep press area clean including: Replacing press rags and solutions, as needed. Cleaning press area at end of shift.</p> <p>Communicates effectively by: Properly making computer entries. Following chain of command from crew-leader.</p> | | |

This apprentice has satisfactorily met all of the requirements for the Performance Outcome of Web Press Tender.

 Supervisor

 Date

Web Press Operation

Unit 10

| Performance Outcome: Apprentice will be able to demonstrate an understanding this position of press operator for a web offset press. (minimum – 2000 hours) | | |
|---|--|--------------------------------|
| Task | Minimum Task Standards Met, Date/ Initials | Supervisor/Apprentice Comments |
| <p>Practices safe work habits in a work environment.</p> <p>Follows all required safety procedures: PPE's, ergonomics, chemical hazards, etc.</p> <p>Performs job in a manner that protects the health and safety of all employees.</p> <p>Reads and interprets job ticket and ensures that all discrepancies are resolved.</p> <p>Works with crewmembers in operating the press and folder, cleaning and maintaining equipment, changing paper rolls, and performing other assigned duties.</p> <p>Ensures maintenance activities are thoroughly accomplished and documented.</p> <p>Consistently inspects for and maintains a high quality of web work.</p> <p>Works with the Crew Leader to see all running samples are pulled, inspected, and initialed.</p> <p>Ensures sample copies are of the highest quality.</p> <p>Follows all SOPs and works to ensure others on the crew do also.</p> <p>Takes responsibility when violations or errors are made.</p> <p>Verifies press counts by checking auto-count to the counters and initials packing slips as appropriate.</p> <p>Ensures all auto-count printouts and computer entries are correct and accurate.</p> <p>Works to keep the entire press area clean at all times, both during production runs and down time, using the resources of him/herself and others efficiently as well as instructing others on the crew to ensure the Crew Leader's requirements are efficiently and expeditiously met.</p> <p>Assigns or directs the work of crewmembers, to appropriately trained and experienced personnel.</p> <p>Helps in the administration of maintenance programs, tasks, and associated paper work.</p> <p>Trains crewmembers.</p> <p>Follows the department's maintenance program when maintenance is being conducted.</p> <p>Ensures the press has all required resources.</p> | | |

This apprentice has satisfactorily met all of the requirements for the Performance Outcome of Web Press Operator.

Supervisor

Date